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ARTICLE TITLE

Self-help Treatment of Eating Disorders

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DISCLOSURE STATEMENT

Disclosure of any relationship with a commercial company that has a direct financial interest in subject matter or materials discussed in article or with a company making a competing product
None.

KEYWORDS

4-8 keywords to enhance online search results

Self-help, eating disorders, review, bulimia nervosa, binge eating disorder, intervention

KEY POINTS

3 to 5 bullet points of approximately 25 words each that summarize the main ideas of your article. Key points appear at the very beginning of your article in print and online.

- Studies of self-help interventions have mainly focused on the treatment of bulimia nervosa (BN), and binge eating disorder (BED), with very few addressing treatment of anorexia nervosa (AN).
- Guided self-help interventions for BN and BED are superior to waiting list or delayed treatment in terms of improving ED psychopathology and abstinence rates.
- Systematic reviews comparing guided self-help (GSH) and other therapies have combined other treatments that are less intensive (pure self-help), more intensive or equally intensive as GSH. It is hard to draw firm conclusions on the relative efficacy of GSH from these.
- Findings on the impact of guidance on outcome are mixed, however there is some evidence on the impact of guidance on treatment adherence.
- Future studies are needed to separate out the effects of different modes of self-help (guided/unguided; bibliotherapy/digital), comparison groups (waitlist/type of comparison therapy), as well as the point in the care pathway (prevention, relapse prevention) at which the intervention is delivered.

SYNOPSIS

Brief summary of your article (100 words or fewer; no references or figures/tables). The synopsis appears only in the table of contents, and is often used by indexing services such as PubMed.

The authors provide an overview of the current state of research on self-help interventions for eating disorders. The efficacy of different forms of self-help interventions for bulimia nervosa, binge eating disorder and other eating disorders at various stages of the care pathway (from prevention to relapse prevention) is described. Cost-effectiveness studies are also presented. Moderators of outcome, such as guidance and adherence, are discussed. Overall, the findings are promising and support the use of self-help interventions in the treatment of bulimic disorders, across the stages of the care pathway. Less is known about the use of self-help in anorexia nervosa.

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Introduction

Self-help programmes are structured interventions based on a clear psychological model, which require little or no involvement from a health professional¹. Currently, most widely-evaluated self-help interventions for eating disorders (EDs) are based on disorder-specific cognitive-behavioural therapy (CBT) (see Table 1). Only a few feasibility and pilot studies use third-wave CBT principles, such as Acceptance and Commitment Therapy², or Dialectical Behaviour Therapy³ to address the ED, or focus on relevant personality factors (e.g. perfectionism) thought to contribute to illness maintenance⁴. Self-help can be administered at various points along the care pathway, ranging from prevention/early intervention, treatment, to relapse prevention/maintenance of recovery⁵. The mode of delivery can be via books or manuals (also known as bibliotherapy), CD-ROMs, videos, or digitally via the internet and mobile apps. Digital self-help intervention is also referred to as technology-based intervention or as computer-based intervention (CBI). This includes internet-based cognitive behavioural therapy (iCBT) and computerised cognitive behavioural therapy (cCBT). Online delivery is thought to have advantages over other forms due to its scalability⁶ and interactivity⁷.

Self-help approaches can be delivered with guidance (guided self-help, GSH) or without (pure self-help, PSH). As most self-help interventions are based on CBT, they are also known as CBT-GSH or CBT-PSH. In GSH, the intensity and modality of guidance varies across programmes and settings. Guidance can be provided face-to-face, or via email, telephone, or online messaging. As self-help is user-led, the aim of guidance is mainly supportive in nature; it may focus on enhancing motivation and providing clarification, review and personalisation. Some interventions retain the format of face-to-face therapy by having regular weekly guidance sessions, while others are briefer and more flexible to allow users to select modules on websites or apps. PSH by contrast, relies entirely on the motivation of the individual user.

Some researchers have argued that self-help interventions are contraindicated in anorexia nervosa (AN) due to the ego-syntonic nature of the disorder and high medical risk^{8,9}. However, a small body of evidence suggests that people with AN can benefit from self-help programmes enhancing treatment motivation as an adjunct to face-to-face treatment^{10,11} or for relapse prevention^{12,13}. By comparison, self-help is a widely used treatment option for BN and BED where it has a sizeable evidence-base. In the UK, guidelines of the National Institute of Care and Excellence (NICE) recommend self-help interventions as the first step for treatments for 'bulimic-type' disorders, including bulimia nervosa (BN), binge eating disorder (BED), and milder forms of binge eating¹⁴.

The flexible and accessible nature of self-help is believed to reduce barriers to treatment, such as long waiting times, perceived shame and stigma associated with bulimic behaviours, or fear of seeking professional help¹⁵. From the perspective of the person with the disorder, the user-led

nature can empower them by promoting autonomy and independence¹⁶. From the healthcare service perspective, self-help interventions can be integrated into a stepped-care approach, whereby people with mild EDs receive low-intensity care and can “step up” for more intensive treatments where needed. This is believed to be less costly than conventional face-to-face therapy as it can be delivered in non-specialist settings⁹.

In what follows, we present evidence from recent systematic reviews (SRs) and individual randomised controlled trials (RCTs) on the efficacy and effectiveness of different types of self-help interventions. We also summarise what is known about the use of self-help treatments at different stages of the care pathway, their cost-effectiveness and finally we also look at key factors moderating outcomes. By necessity, the focus will be mainly on interventions focusing on bulimic-type disorders, but where appropriate we will mention other EDs too.

Efficacy and Effectiveness

Findings from recent systematic reviews

Several SRs have summarised the available evidence on self-help interventions for EDs. An early Cochrane SR¹⁷ included bibliotherapy interventions and CD-ROM based interventions. More recently, there has been an increasing number of reviews on digital self-help^{5,18}. Table 2 summarises SRs specifically on self-help interventions for EDs published in the last 5 years. Additionally, Linardon et al¹⁹ conducted a systematic review and meta-analysis on the effectiveness of CBT in EDs, which includes CBT self-help. A recent network analysis was published examining the effects of all treatment modalities for BN, again including self-help²⁰.

The main outcome measures for intervention efficacy or effectiveness typically include (1) abstinence from ED-related behavioural symptoms, such as bingeing and purging, and (2) reduction in ED psychopathology measured by interview or questionnaires, such as the Eating Disorders Examination Interview²¹ or Questionnaire (EDE-Q)²². Whilst abstinence is widely held to be a ‘hard’ gold-standard outcome measure, definition of abstinence differs between studies and reviews. For example, while Traviss-Turner et al²³ defined abstinence as an absence of behavioural symptoms for 28 days, whereas Beintner et al²⁴ used the definitions specified in each individual study. Given differences in definitions, unsurprisingly abstinence rates also differ widely across studies. For example, Beintner et al.’s review found between 9-64% of the participants to achieve abstinence from bingeing at post-intervention²⁴. The effects of the self-help interventions on abstinence are heterogeneous according to several SRs and depend on comparison condition^{19,24}.

Self-help interventions versus waiting-list (WL)

Many studies compare self-help interventions against some kind of waiting list or delayed treatment condition.

Effects on Abstinence:

While an early Cochrane review¹⁷ did not find any significant difference between WL and intervention group (PSH and GSH combined) on abstinence from bingeing at the end of treatment, the lack of any treatment effect is most likely due to the small number and heterogeneous nature of studies available at that time.

In contrast, three recent SRs found clear evidence of an effect of self-help on abstinence compared to waiting list^{19,20,23}. Traviss-Turner et al²³ found an overall effect in favour of GSH compared with WL on achieving binge abstinence with a small effect size -0.25 (CI $[-0.34, -0.15]$). A network analysis

on treatments of BN²⁰ found the odds ratio of achieving full remission (defined as being symptom-free for a minimum of 2 weeks) with CBT-GSH compared to WL was 3.81 (Credible Interval [CrI]: 1.51-10.90) and with CBT-PSH was 3.49 (CrI: 1.20-11.21) respectively. There was insufficient evidence to inform a network analysis at longer-term follow-up. The analysis also did not include BED. In addition, for BED, Linardon et al's SR¹⁹ found a significant effect of CBT self-help on remission when compared to inactive control at posttreatment. Their SR, however, did not differentiate between PSH and GSH.

Effects on ED Psychopathology:

Findings from different SRs agree that compared to waitlist controls, both PSH and GSH, whether delivered in book or technology-based form are superior in improving ED symptoms in BN or BED populations at posttreatment^{17,23}.

Self-help versus other Treatments

Effects on Abstinence:

The network meta-analysis²⁰ in BN allowed separate pairwise comparisons between PSH and GSH and between GSH and individual CBT without finding significant differences between these pairs. Another SR by Traviss-Turner et al²³ compared the effect of GSH on abstinence from binge eating with a heterogeneous group of other treatments, including PSH, other GSH treatments or formats (book vs computer-delivered) or face-to-face psychological therapy. While there was a small effect in favour of GSH (relative risk: -0.08 [CI -0.21, 0.04]), these findings are hard to interpret, as some comparison treatments were of lower and other of higher intensity than the GSH interventions.

Effects on ED Psychopathology:

Traviss-Turner et al²³ found a small effect in favour of GSH (relative risk: -0.21 [CI -0.50, 0.07]) when examining the global ED psychopathology. However, for the same reason as above, this finding was difficult to interpret given the heterogeneity in comparison treatments.

In contrast, the SR by Linardon et al¹⁹ did not find significant difference between the effect of CBT self-help on ED psychopathology when compared to other therapies in BED patients. Similar to Traviss-Turner et al²³, the comparison treatments included a wide range of heterogeneous treatments. There were insufficient studies to examine the effects on BN.

Findings from key individual studies not summarised in these SRs

A recent large Dutch RCT²⁵ assigned participants recruited online with self-reported ED symptoms, including those with anorexia nervosa, BN and BED, to four different conditions, with (1) an iCBT programme called 'featback' consisting of psychoeducation with automated feedback messages, (2) featback with weekly therapist support, (3) featback with three-times-a-week therapist support, or (4) waiting list. Compared to waiting list, the three featback conditions had small significant effects on reducing bulimic psychopathology, improving mood and reducing perseverative thinking, regardless of the provision and intensity of therapist support. However, those who had some therapist support were more satisfied with their treatment condition than those without.

A recent large-scale multi-centre non-inferiority RCT (178 participants) from Germany compared 20 sessions of individual face-to-face CBT with guided iCBT (11 online modules plus 2 x 90 mins sessions with a therapist) for BED²⁶. The primary outcome of the study was the difference between groups in objective binge days over the previous 28 days at end of treatment. In relation to this variable, face-to-face CBT was superior to guided iCBT at end of treatment, and also on abstinence and reduction

in ED-related psychopathology at 6-month follow-up. These differences disappeared at 1.5-year follow-up.

Self-help studies at other stages of the care pathway

A number of studies have focused on using self-help interventions at different stages of the care-pathway, i.e. specifically for prevention or early intervention or to prevent relapse after e.g. a period of intensive treatment. These studies exclusively examined iCBT interventions and are summarised below.

Prevention and early intervention

An 8-week, structured iCBT programme, StudentBodies™, has been widely evaluated in the US and Germany among female undergraduate students²⁷, and those who are at-risk of or have subclinical AN²⁸, or BED²⁹. A meta-analytic review by Beintner et al³⁰ examined 6 US and 4 German RCTs, and found no clear cultural difference on outcomes. There were mild to moderate improvements in ED-related attitudes, on negative body image and desire to be thin scales. The effects were sustained at follow-up. However, a separate SR¹⁸ that included a range of preventative online interventions argued that across the outcome measures (global ED psychopathology and bulimic-symptoms), effect estimates were low for these iCBT programmes, including StudentBodies™.

The programme has been modified and is currently being evaluated in a clinical population in several European countries (Germany, Austria and UK)³¹.

Relapse prevention

One RCT investigated an internet relapse prevention programme (RP) after inpatient treatment for AN²⁷. RP completers gained significantly more weight than treatment-as-usual (TAU), as well as achieving greater reduction in psychopathology (bulimic symptoms on interview, social insecurity and maturity fears dimensions in EDI-2).

A feasibility trial¹³ in the UK found tentative evidence for the efficacy of a manual-based email-guided self-care programme in preventing relapse following inpatient treatment compared to TAU. An RCT by Jacobi et al³² examined an internet-based relapse prevention (IN@) for women with BN following inpatient treatment, again compared to TAU. The intervention had a significant effect on vomiting episodes but not on abstinence or binge eating episodes at post-intervention; group differences turned non-significant at follow-up. In a moderator analysis, those who at discharge from inpatient treatment still had bulimic symptoms benefited from the IN@ programme, whereas those who were already abstinent did not.

Cost-effectiveness

Only very few cost-effectiveness studies have focused specifically on self-help treatments for EDs. A systematic review of such studies identified 13 studies, published until 2017 (Le et al³³), only two of which focused on self-help treatments^{34,35}.

One of the studies identified in the SR was part of a Dutch RCT of online self-help with or without therapist guidance and including a waiting list control, amongst adults with any type of self-reported ED symptoms³⁴. The online intervention seemed to be effective compared to WL, however there was no clear preference economically regarding the provision of therapist support.

The other study compared book-based CBT-GSH added to treatment as usual (TAU) with TAU alone in people with BED³⁵. This study found CBT-GSH added to TAU was more effective and less costly than TAU alone using both societal and healthcare perspectives.

Finally, a recent large-scale RCT in women with BED compared the cost-effectiveness of iCBT-GSH with face-to-face individual CBT over a 22-month period³⁶. CBT was more effective but also more costly compared to iCBT-GSH from a societal perspective. For CBT to be cost-effective, societal willingness to pay had to be high (i.e. at least €250 per binge-free day to achieve an 80% probability of being cost-effective).

Moderators of Outcome

The heterogeneity of outcomes across studies points to the importance of examining moderating variables. A meta-regression by Beintner et al²⁴ found a number of such moderators on outcome, including guidance (especially guidance from a specialist), number of guidance sessions, age (which is a proxy of illness duration), body mass index, and severity of ED-related attitudes.

The SR by Traviss-Turner et al²³ found no significant moderating effect of ‘mode of guidance’, ‘severity of ED’ or ‘amount of contact time’, although there was a suggestion that more contact time might be better. They did however find that a diagnosis of BED increased the likelihood of abstinence.

The role of Guidance

In general, the findings relating to the impact of guidance on outcome seem to be mixed. Generalisations and comparisons across studies are difficult to make as many studies do not include information about duration of contact, content of guidance and qualifications of guides/coaches⁵.

Another approach concerns placing guidance as a moderating variable. A meta-regression on self-help interventions for people with “bulimic-type” disorders by Beintner et al²⁴ indicated that provision of guidance predicted reductions in binge frequency, abstinence from bingeing, and in EDE-Q Eating, Weight, and Shape Concerns. Guidance had the largest impact on ED psychopathology, with GSH yielding larger effect sizes than PSH, assuming similar dropout and intervention completion rates.

There is stronger evidence on the role of guidance on adherence and satisfaction, which may in turn affect outcome. For example, one study reported adherence to self-help at 6% in PSH, and 50% in GSH³⁷. Beintner et al²⁴ found generally lower participation in the PSH condition. Guidance was also associated with higher satisfaction and seen as a helpful element in self-help interventions³⁸. While pure self-help can be empowering and enhance autonomy, sufferers may struggle to motivate themselves to persist with this due to perceived lack of support³⁹. Treatment motivation can potentially be enhanced through interacting and developing a therapeutic relationship with the guide⁴⁰.

In the light of this evidence, instead of examining the role of guidance per se, perhaps maximising the helpfulness of guidance should be investigated. Beintner et al²⁴ proposed the quality of guidance (assessed by the guides’ ED expertise) as a moderating variable on outcome and adherence, and found better outcomes when the guide was a specialist. Yet, specialists can be costly. It may be more useful for us to understand the content and quality of good guidance. Qualitative studies showed reciprocity, trust, open, strong and collaborative therapeutic relationships were important for

positive treatment outcomes in GSH for BN and BED⁴¹. Carrard et al⁴² interviewed coaches who had high participant retention rates. They reported using a more “therapeutic approach” in their guidance. Interestingly, Sánchez-Ortiz et al’s¹⁶ content analysis of email guidance in GSH showed that most of the emails had supportive content (95.4%) as opposed to using specific cognitive behavioural techniques.

Treatment Adherence and Drop-out

Definitions of treatment engagement, adherence, completion and drop-out vary widely across studies of self-help in EDs. In their review of four iCBT studies in ED patients, Fairburn & Murphy⁶ found that 16 to 24% of participants did not take up the intervention. In Beintner et al’s²⁴ large SR, between 6 to 86% of participants completed the intervention, and between 1 to 88% dropped out. In terms of drop-out at follow-up, another review, specifically on digital self-help, found rates between 4.7 to 84.8%⁵. Across different self-help interventions, bibliotherapy seemed to have the highest participation defined by completion of at least half of the intervention (65%, CI: 54–75%), followed by CD-ROM (38%, CI: 22–54%) and internet-based interventions (37%, CI: 20–54%)²⁴. Different reviews found that moderators of drop out were either inconsistent³⁸ or could not be determined²⁴.

Qualitative studies can give us insights into facilitators of treatment uptake and retention. A small study of online self-help⁴³ reported reasons for discontinuation of the programme to include lack of motivation, energy or time, loss of interest, lack of benefits, and technical issues. Some participants are sceptical of self-help for EDs and view this as a ‘cheap’ option with limited or no support^{16,39,40}. Other researchers found that a short training presentation increased university students’ preference for computerised CBT (CD-ROM) for depression from below 10 to 30%⁴⁴. It thus seems that managing and communicating expectations helps in optimising intervention uptake.

Self-help interventions across cultures

Most research on self-help interventions for EDs has been conducted in white females. The evidence base on the acceptability and efficacy in other ethnic groups is limited, though preliminary findings demonstrate the potential of implementing evidence-based self-help programmes across cultures. Two small open studies have adapted and tested self-help programmes in Mexican Americans⁴⁵ and people in Hong Kong⁴³.

Summary/ Implications

In general, there are multiple barriers to accessing ED care, some of which are patient-related, such as shame, stigma, or secrecy, whereas others are service-related, such as availability or accessibility of specialist treatments. Self-help interventions have the potential for overcoming these barriers, by giving people with EDs timely access to relatively low-cost specialist interventions and empowering them to take charge of their own recovery in the process. Some form of guidance seems to enhance adherence and possibly outcome. However, findings are far from conclusive and many open questions remain. Thus more research is needed to better understand the place of these interventions in our therapeutic armamentarium. Specifically, we have the following recommendations:

Research implications

More studies are needed that compare self-help interventions with gold standard face to face treatments and include assessments of cost-effectiveness. In addition, further studies of the use of self-help at different stages of the care pathway (eg. from prevention to relapse prevention) would

be valuable. We also know very little about the relative merits of book-based versus technology-based interventions. Recent advancements have led to an increase in mobile app-based programmes, although most of them are used for self-monitoring purposes⁴⁶. Little is as yet known about the usability and feasibility of delivering mobile-based stand-alone self-help programmes. The relative merits of book-based, web-based and mobile-based self-help interventions should be further explored.

Very few studies on self-help systematically report adverse events and harms in addition to improvements. Future studies should routinely evaluate these. This will be especially important for self-help interventions with little or no guidance where clinical risks are less readily monitored.

Clinical Implications

Clinicians who want to offer self-help interventions to their ED patients are well advised to consider how the purpose of and what to expect from a self-help intervention is being communicated to potential users. Other considerations include helping patients set up their use of a self-help intervention in a structured way, to avoid unstructured browsing and encourage systematic working through. Careful discussions about these issues coupled with plans as to what the next steps are, if self-help is not enough to achieve symptom improvement or recovery are needed, to ensure that patients do not feel short-changed.

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Appendices

Table 1 Examples of some empirically evaluated (used in at least one RCT) self-help interventions related to EDs

Name	Mode	Example study
Overcoming Binge Eating	Book	Dunn, Neighbors, and Larimer ⁴⁷
Getting Better Bite by Bite	Book	Schmidt et al ⁴⁸
Working to overcome eating difficulties	Book	Traviss-Turner et al ⁴⁹
Overcoming Bulimia Online	CD-ROM, online	Sanchez-Ortiz et al ⁵⁰
Student Bodies+	Online	Beintner et al ³⁰
SALUT	Online	Wagner et al ⁵¹ (SALUT BN); Carrard et al ⁴² (SALUT BED)

Table 2. Systematic Reviews on structured stand-alone self-help programmes for EDs in the last 5 years

Authors	Studies evaluated	Type of ED	Type of Self-help
Aardoom et al ⁵²	21 RCTs, controlled studies, uncontrolled studies, qualitative studies till January 2013	All EDs	Internet-based treatment
Beintner et al ²⁴	33 RCTs, 1 CT, 16 case series till 2012	BN, BED, EDNOS with binge eating	Manualised GSH & PSH of all modalities
Loucas et al ¹⁸	20 till July 2014 13 on prevention, 6 on treatment, 1 on relapse prevention	All EDs	Technology-based therapies including CD-ROMs, internet
Schlegl et al ⁵	22 RCTs, 2 CTs, 16 uncontrolled trials till 2014	All EDs	Technology-based GSH and PSH
Traviss-Turner et al ²³	30 RCTs till 2016	BN, BED, EDNOS with binge eating	Manualised GSH of all modalities
Pittock et al ⁵³	5 RCTs	BN, subthreshold BN or EDNOS-BN (studies that included participants with BED were excluded)	Technology-based CBT